WHAT IS CLAIMED:

1. A retinal prosthesis test device comprised of:

an external image source producing a video image;

a micro-cable for conducting the video through a patents eye wall;

an electronic chip for demultiplexing the video image into a two-dimensional (2-D) array of unit cells;

a nanochannel glass electrode array hybridized to said 2-D array of unit cells with induim bumps and electrically connecting each unit cell to adjacent neural tissue; and

an external electronic circuit board generating a biphasic pulse applied globally to the unit cells through the micro-cable causing an electronic signal to be applied to a human eye wherein it is converted to an electrochemical signal transmitted through human tissue within the eye to a patients optic nerve.

2. A device, as in Claim 1, wherein the nanochannel glass electronic array is comprised of a hybridized to the microelectronic chip mounted on a ceramic chip carrier, all unit cells controlled by a series of row shift registers and column shift registers for directing the incoming video image to a predetermined unit cell.

3. A permanent retinal implant device comprised of:

a nanochannel glass electrode array receiving photons through a human iris and converting said photons to a two-dimensional (2-D) spatially discrete electrical signal residing in individual unit cells;

an electronic unit located externally on a patient for inductively transmitting electrical power and control signals to the electronic chip and nanochannel glass electrode array within the patients eye; and

a biphasic pulse generated with on-chip electronic circuitry causing an electrical signal to be routed through the nanochannel glass electrode array and applied to adjacent retinal tissue in a human eye where it is converted into an electrochemical signal to be transmitted through retinal neurons within the eye to a patients optic nerve

4. A device, as in Claim 3, wherein the nanochannel glass electronic array is further comprised of an on-chip antenna for receiving the inductively transmitted signals and applying them selectively to an array of unit cells, digital electronics for controlling the application of the electrical to the retinal tissue, an on-chip power receiver for applying power to the array of unit cells, a bias voltage supply for operating the electronic chip, and a biphasic pulse generator for generating the biphasic pulse, as well as row and column shift registers.